

CLAIMS

1. A method for the attachment of an electrical lead wire (22, 24, 26) on a surface element (16) characterized by the following steps:
  - 5 a. first an attachment area (33) of the lead wire (24, 26) at least indirectly on the surface element (16) is constructed
  - b. next the attachment area (33) of the lead wire (24, 26) placed adjacent to the surface element (16) and immediately next to the attachment area (33) of the surface element (16) is thermally sprayed with an attachment material (50, 54).
- 10 2. A method for the attachment of an electrical lead wire (22, 24) on a surface element (16) characterized by the following steps:
  - a. A contact material is thermally sprayed on the surface of the surface element (16) and a contact point (56) is created
  - 15 b. A contact point (56) is welded on the attachment area (33) of the lead wire (24, 26).
3. A method according to claim 2 which is characterized by the attachment area (33) on the contact point (56) which is welded on via ultrasound.
4. A method according to the previous claims characterized by that the surface element, an electrically conductive layer, preferably encompasses a heating layer (16) or a cooling layer and that the attachment area (33) of the electrical lead wire (24) is electrically connected with the electrical lead layer (16).
- 20 5. A method according to claim 4 which is characterized by the attachment and contact materials (50, 58) which are thermally sprayed or welded opposite of the electrically conductive layer (16) and have a higher or at least five to preferably ten times the electrical conductivity.
- 25 6. Method according to claim 1 characterized by the surface element, an electrically conductive layer, which preferably encompasses a heating layer (16) and that before step a an electrically isolating layer is applied to the electrically conductive layer, which is preferably sprayed on thermally and the lead wire consist of a thermal element (26).
- 30 7. A method according to one of the previous claims characterized by that before the thermal spraying of the attachment/contact material an area (47) not immediately adjacent to the attachment (33) or contact point (56) of the

surface element (16) is covered. (they mean that 47 is prevented from being sprayed on).

8. A method according to one of the previous claims characterized by an attachment area (33) consists of an electrical lead wire (24, 26) a cord (32) of an electrical cable (24) a cable lug (57) an end splice, a connection banner of a plug or pins or a welding point of a thermal element (26).

5 9. A method according to one of the previous claims characterized by that the thermal spray method encompasses plasma spraying.

10 10. A method according to one of the previous claims in connection with claim 1 which is characterized that after step b an electrically isolating layer (52) which is preferably a ceramic or a plastic is sprayed on thermally on the attachment area and at least on the immediately adjacent area of the surface element.

15 11. A method according to one of the previous claims in connection to claim 2 which is characterized by that before step b an electrically isolating layer (52), which is preferably a ceramic or a plastic, is thermally sprayed on the surface element (16) and the contact point and that also before step b the isolating layer that was sprayed on the contact point is at least partially removed, preferably through polishing.

20 12. A method according to claim 11, which is characterized by that after step b the contact point (56) and the attached attachment are (33) provided with an electrical isolating material (62), preferably through casting.

25 13. A method according to one of the previous claims, characterized by that at least the electrically isolating layer (19, 52) Al<sub>2</sub>O<sub>3</sub>, the surface element (16), an austenitic nickel base layer of the attachment area (33) of the electrical lead wire (24) pure nickel, and/or the attachment material (50) consists of copper.

30 14. Heating channel element (10) especially for a plastic spray device, with a pipe-like base piece (12), a heating layer (16) that is thermally sprayed in the base piece (12) and at least one electrical lead wire (22, 24, 26) characterized by that the attachment area (33) of the electrical lead (24, 26) at least immediate to the heating layer (16) is attached by that it is thermally sprayed with an attachment material (50, 54), on an immediately adjacent attachment area (33).

15. Heating channel element (10) especially for a plastic spray device, with a pipe-like base piece (12), a heating layer (16) that is thermally sprayed in the base piece (12) and at least one electrical lead wire (22, 24, ) characterized by that it comprises a thermally sprayed on contact point (56) which is thicker than the surface element (16) and is welded to the attachment area (33) of the electrical lead wire.  
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16. Heating channel element (10) according to claim 14 or 15 which is characterized by that the electrical lead wire of the connection element (22, 24) provides the power supply of the heating layer (16) and that its attachment  
10 area (33) is electrically connected to the heating layer (16).
17. Heating channel element (10) according to claim 14 or 15 which is characterized by that the electrical lead wire includes a thermal element and that between the thermal element and the heating layer an electrically isolating layer exists.
- 15 18. Heating channel element (10) according to claim 14 or 17 which is characterized by that it includes a strain relief ring (60) and that the electrical lead wire (22, 24) is clamped between the strain relief ring (60) and the surface element (16).